Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
IP-Enabled Services	)	WC Docket No. 04-36
	)	

Comments of
Communications Workers of America

Debbie Goldman
George Kohl
501 Third St. N.W.
Washington, D.C. 20001
(202) 434-1194 (phone)
(202) 434-1201 (fax)
debbie@cwa-union.org

Dated: May 28, 2004

SUMMARY

We are in the midst of revolutionary change in the way Americans communicate with each other and with people around the globe. The Internet is now ready for quality voice telephony. Over the next decades, our basic communications infrastructure will transition from today's public switched network designed primarily for voice telephone calls to the Internet, which gives consumers the ability to send and receive large quantities of information – whether as voice conversations, video, or data – simultaneously over the packet-switched Internet.

The convergence of voice, video, and data communications over the Internet provides exciting new opportunities to improve the way we communicate with one another; deliver social and public services such as health care, education, job training, public safety, and other services; develop economic opportunity and create jobs in all areas of our nation, including rural and depressed urban areas; facilitate participation in the political process and in our civic institutions; and create avenues for access for people with disabilities and others.

The explosion of IP-enabled services will stimulate demand for access to high-bandwidth Internet networks, which in turn will serve to jumpstart the depressed telecommunications and information sectors of our economy. Over the past three years, the telecommunications and information industries have lost more than 900,000 jobs. CWA-represented jobs in the telecommunications industry have declined by more than 70,000 jobs over the past two years. A universal high-speed Internet network will stimulate the creation of 1.2 million jobs throughout the economy and $500 billion in consumer benefits.

But the full potential of IP-enabled services, including Voice over the Internet Protocol (VoIP), will only be realized if we adopt public policies to ensure that Internet network and

service providers meet their obligations for network reliability, public safety, universal service, access for people with disabilities, and consumer protections that have been the hallmark of the traditional public switched telephone network.

The universal, affordable, high-quality ubiquitous telephone network that reaches almost every household and business in this country was the envy of the world. This network was built and maintained by private capital subject to public interest obligations that ensured that all Americans would have access to high-quality and affordable voice communications services. Public policy mandated open networks, universal service support, disability access, 911 and expanded 911 public safety, privacy protections, truth in billing, and other consumer protections to ensure that privately owned communications networks served the public interest. These public policies also encouraged private investment in new Internet technologies, driving growth and innovation.

Now the United States has fallen behind the rest of the world in the development of next-generation communications networks – the Internet. The United States ranks 11th in the world in the number of households that have high-speed Internet connections, behind Canada, Japan, and South Korea. This is not simply a result of geography or population density. It is a result of public policy.

This rulemaking on the appropriate regulatory treatment of IP-enabled services provides the Commission a historic opportunity to set the rules for the next-generation communications system in the United States. The Commission must ensure that the public interest in universal, affordable quality, high-speed Internet networks and services is paramount as it writes the rules for the new information age.

The Commission must construct the new regulatory framework from a simple starting point: voice communication over the Internet (VoIP) is a telecommunications service. A VoIP call starts as voice and ends as voice. What enters the network on one end emerges at the other end in the same form. The form or content of the conversation is not changed in the process.

Thus, VoIP providers must be subject to the same regulatory framework that applies to other telecommunications service providers for universal service support, 911/E911 public safety, wiretapping, consumer protections, and disability access. VoIP carriers that transfer traffic to the public switched network must be subject to intercarrier compensation (access charges). Regulation of VoIP services as a telecommunications service serves to ensure competitive neutrality, foreclosing arbitrage opportunities.

Although VoIP is a telecommunications service, the Commission need not impose unnecessary regulations on VoIP and other IP-enabled services. These services are highly competitive; there is no monopoly provider with bottleneck market power. Therefore, the Commission need not impose rate regulation on VoIP and IP-enabled services at this time.

While the Internet is a global network of networks, consumers who subscribe to voice over the Internet service will use the service to make intrastate, interstate, and international calls. Thus, state regulatory Commissions should continue to have a role in partnership with the FCC to regulate VoIP service in the same manner state Commission regulate other intrastate voice services in the public interest.

TABLE OF CONTENTS

I. INTRODUCTION

The Communications Workers of America ("CWA") submits these comments in response to the Commission's *Notice of Proposed Rulemaking* ("*NPRM*") on the impact and appropriate regulatory treatment of IP-Enabled Services, including Voice over the Internet Protocol ("VoIP") services.[1]

CWA is a labor organization representing approximately 700,000 workers employed in telecommunications, publishing, manufacturing, health care, state and local government, and other public and private organizations. CWA members work in all segments of the telecommunications industry, including local and long-distance telephony, cable, wireless, and Internet access. CWA members are also consumers of telecommunications services.

By allowing integration of voice, video, and data communications, IP-enabled services offer exciting new opportunities to improve the way we communicate with one another; deliver social and public services such as health care, education, job training, public safety, and other services; develop economic opportunity and create jobs in all areas of our nation, including rural and depressed urban areas; facilitate participation in the political process and in our civic institutions; and create avenues for access for people with disabilities and others.

The explosion of IP-enabled services will stimulate demand for access to high-bandwidth Internet networks, which in turn will serve to jumpstart the depressed telecommunications and information sectors of our economy. Over the past three years, the telecommunications and information industries have lost more than 900,000 jobs.[2] A universal broadband network will

[1] *In the Matter of IP-Enabled Services*, *Notice of Proposed Rulemaking* (*"NPRM"*), WC Docket No. 04-36, Mar. 10, 2004 (rel).

[2] Between Dec. 2000 and Feb. 2004, more than 270,000 jobs have been lost in telecommunications services, more than 100,000 jobs in telecommunications manufacturing, and another 530,000 jobs have been lost in computer and

stimulate the creation of 1.2 million jobs throughout the economy and $500 billion in consumer benefits.[3]

But the full potential of IP-enabled services will only be realized if we assure that all Americans have affordable, quality access to these services, and that all carriers and service providers have non-discriminatory access to Internet networks. These are the principles that have made the public switched telephone network ("PSTN") the envy of the world.[4] As we transition to IP-enabled services, including Internet voice telephony, the Commission must adopt policies to meet social obligations and protect the public interest, including policies to support universal, affordable, quality service, disability access, public safety, consumer protections, and an open network architecture.

Eventually, all voice, data, and video will travel over IP packet-switched networks, rendering today's public circuit-switched telephone network (PSTN) obsolete. During the transition, voice traffic will travel between the Internet and the PSTN. Today there are an estimated 380,000 VoIP subscribers in the local loop; analysts predict that somewhere between 30 and 50 million customers could be VoIP subscribers by 2009.[5] Already, 11 percent of international traffic is

---

electronic products manufacturing. U.S. Bureau of Labor Statistics, Employment and Earnings. Data extracted on March 22, 2004.

[3] Robert W. Crandall, Charles L. Jackson, and Hal J. Singer, "The Effect of Ubiquitous Broadband Adoption on Investment, Jobs, and the U.S. Economy," Criterion Economics for the New Millennium Research Council, 2003; Robert W. Crandall and Charles L. Jackson, "The $500 Billion Opportunity: The Potential Economic Benefit of Widespread Diffusion of Broadband Internet Access," Washington, D.C.: Criterion Economics, 2001.

[4] "The rise of the Internet…has been possible because the Internet employs an open network architecture…" *NPRM,* ¶8.

[5] Frank Louthan, Vice-President of Equity Research, Raymond James Financial and Ned Azcher, Dir.-telecom research at Weisel Partners. Citation in "Analysts Tell House to Expect Dynamic VoIP Growth Soon," *Communications Daily,* Feb. 5, 2004, 5-6. The Yankee Group predicts that as much as 40% of the nation's voice traffic will be VoIP by 2009. *See* Julie Creswell, "The Bells Call for Help; The Telcos Adopt—And Get Strangled By—VOIP," *Fortune*, Feb. 23, 2004. UBS Warburg predicts that 16 percent of Bell lines or 23.8 million will transition to VoIP by 2008. *See* UBS Investment Research, "VOIP in Japan and the U.S." Sept. 11, 2003, 6. A more conservative estimate comes from In-Stat/MDR, which predicts 4 million VoIP lines by 2007. Cited in Demetri Sevastopulo and Paul Taylor, "A Disruptive Technology – How the Rise of Internet Telephony is Shaking Up

transmitted over the Internet. In 5-10 years, all wireless will be 3rd generation IP-enabled phones.[6] While IP-enabled communication is growing rapidly, the transition period is likely to go on for many years. There will continue to be voice traffic traversing both the public switched network and the Internet for many years to come.

The Commission seeks comment on the appropriate regulatory treatment of IP-enabled services, including VoIP. The Commission states at the outset that regardless of the regulatory framework that it ultimately chooses for various IP-enabled services, the Commission must ensure the continued relevance of aspects of the current regulatory framework, including provisions designed to ensure disability access, consumer protection, emergency 911 service, law enforcement access for authorized wiretapping purposes, consumer privacy, and other public interest goals.[7]

CWA agrees, but believes the Commission must go much further to protect and advance the public interest in an IP communications environment. The Commission must establish a regulatory structure to ensure the aforementioned consumer and public safety protections, but it must also adopt policies to promote equitable and sufficient support for universal, affordable quality service. The regulatory framework must treat all carriers of similar services the same so as not to distort the market through arbitrage opportunities. While the Commission must protect and advance these public interest obligations, it need not impose unnecessary economic regulation. The market for IP-enabled services is highly competitive and still in its early stages.

America's Communications Giants," *Financial Times,* April 13, 2004, 15. Stratecast Partners predicts 5 million VoIP customers in 2007. *See* "Covad Announces Voice Over Internet Protocol VoIP Deployment Plans; Internet Voice Offering to Include Business and Consumer Products," Business Wire, Feb. 9, 2004.

[6] Millennium Research Council. *The Future of Internet Phone Calling: Regulatory Imperatives to Protect the Promise of VoIP for Industry and Consumers,* Dec. 2003. *See also* NPRM, fn34.

[7] *NPRM,* ¶5.

Therefore, there is no need to impose price regulation on VoIP and other IP-enabled services at this time.

The Commission should adopt a functional approach to differentiate among IP-enabled services. Voice telephone calls transmitted completely or partially over the Internet for a fee are the functional equivalent of today's circuit-switched telephone calls, and should be classified as a "telecommunications service". The Telecommunications Act of 1996 ("the 1996 Act") defines a "telecommunications service" in functional terms, not based on the encoding format the provider chooses for transmission. A VoIP phone call starts as voice and ends as voice. What enters the network on one end emerges at the other end in the same form. The IP protocol simply tells the digital bits where to go; the form or content of the conversation is not changed in the process.

As a telecommunications service, VoIP providers must be subject to the same regulatory framework that applies to all telecommunications service providers for universal service support, 911/E911 public safety, wiretapping, consumer protections, and disability access. Similarly, VoIP carriers that transfer traffic to the PSTN must be subject to intercarrier compensation (access charges) to pay for their use of the PSTN. In the *NPRM, t*he Commission states "that any service provider that sends traffic to the PSTN should be subject to similar compensation obligations, irrespective of whether the traffic originates on the PSTN, on an IP network, or on a cable network."[8] We agree.

The Commission identifies other IP-enabled data applications that may or may not be integrated with voice. These include such services as instant messaging (IM) services that

[8] *NPRM,* ¶61.

include a voice feature; online games that permit gamers to talk to each other over a private network; personal digital assistants (PDAs) that are capable or transmitting voice and data; and other integrated services that are available today or will develop in the future. [9] These and other IP-enabled services blur the line between voice and data services. These integrated services involve both a transport component that is telecommunications and a software application that may more appropriately be defined as an information service. These integrated services begin to explode the legacy regulatory framework that differentiates between regulated "telecommunications services" and unregulated "information services."

The Commission must use the opportunity of this rulemaking to develop a regulatory framework that advances the public interest in an IP environment in which voice, video, and data are indistinguishable bits. Section 706 of the Telecommunications Act provides the Commission the legal framework to develop a regulating method "to encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans."[10] This new regulatory framework would require *all* providers of telecommunications transport and IP-enabled services to contribute to universal service support, to make their services accessible to people with disabilities, if readily achievable, and to provide appropriate consumer protections.

States must continue to retain jurisdiction over Internet telephone calls that consumers make to others within the same state. As the New York State Public Service Commission notes in its recent Order classifying Vonage's VoIP service as a telephone service subject to state regulation:

> The state's interest in maintaining capable, robust, and efficient telecommunications networks is self-evident. Those networks enable communications that are vital in the provision of essential public services – e.g. public safety, security and health care. Telecommunications are essential in averting and responding to man-made and natural

[9] *Id.,* ¶¶ 16-22.
[10] 47 U.S.C. § 706.

> disasters. State and local emergency response organizations depend on reliable telecommunications to marshal resources and direct recovery efforts. Individuals rely on public communications networks for their own safety and peace of mind in emergency situations. The (NY) Commission also has a responsibility to ensure that the public has ubiquitous access to effective and efficient 911/E911 emergency calling capabilities that meet the needs of emergency response organizations. The events of September 11, 2001 and the widespread blackout of August 2003 emphatically attest to the state's vital interest in maintaining reliable telecommunications networks."[11]

State jurisdiction over intrastate voice telecommunications does not go away simply because the voice communication is transported using Internet protocols and packet switching. While the Internet is a global network of networks, states can play a key role in partnership with the FCC to ensure that VoIP carriers meet public interest concerns for public safety, network reliability, financial, technical, and operational stability of telecommunications carriers, privacy, service quality, consumer protections, universal service, and others. As the Commission notes, VoIP carriers that interconnect with the PSTN are subject to intercarrier compensation. States have authority over intrastate access charges. In addition, many states have state universal service funds that are implicated by VoIP. Therefore, the Commission must clarify a state role for VoIP services consistent with state jurisdiction over other voice telecommunications services.

II. VOICE OVER INTERNET PROTOCOL (VoIP) IS A TELECOMMUNICATIONS SERVICE

A. VoIP Services That Are Functionally Equivalent to Traditional Voice Telephony Are Telecommunications Services

In developing a regulatory framework for IP-enabled services, the Commission must distinguish between VoIP and other IP-enabled services. Voice communications occupy a

[11] State of New York Public Service Commission, *Order Establishing Balanced Regulatory Framework for Vonage Holdings Corporation,* Case 03-C-1285, May 21, 2004, 15.

special place in the communications landscape, and as such, Congress and the Commission have adopted through statute and regulation a framework to ensure universal, affordable access to high-quality voice communications (plain old telephone service, or "POTS"). Voice communication is essential to public health and safety, and as the Commission has emphasized, is essential to promote the public interest, convenience, and necessity.[12] In this section, we discuss the appropriate regulatory treatment of VoIP services.

VoIP services provide the functional equivalent of traditional voice telephony. In the *NPRM,* the Commission describes VoIP generally "to include any IP-enabled services offering real-time multidirectional voice functionality, including, but not limited to, services that mimic traditional telephony."[13] The *NPRM* provides several useful categories to help differentiate among different types of VoIP service. First, the *NPRM* identifies VoIP services that are substitutes for traditional telephony. Second, the *NPRM* identifies VoIP services that interconnect with the PSTN. Third, the *NPRM* identifies VoIP services that use North American Numbering Plan administered (NANPA) telephone numbers. Fourth, the *NPRM* identifies IP-enabled VoIP services relying on a provider's centralized network servers (such as that offered by Vonage) in contrast to offerings that facilitate peer-to-peer IP-enabled VoIP services (such as that offered by Pulver).[14]

---

[12] "We find that single-party service is essential to public health and safety in that it, among other things, allows access to emergency services without delay." *In the Matter of Federal-State Joint Board on Universal Service,* Recommended Decision, CC Docket No. 96-45, Nov. 8, 1996 (rel), ¶ 47. Section 254 of the Telecommunications Act describes universal services as an "evolving level of telecommunications services" that the Commission should periodically review, taking into account advances in telecommunications and information services technologies. 47 U.S.C. § 254(c)(1). Section 254(b) establishes that "consumers in all regional of the Nation … should have access to … advanced telecommunications and information services that are reasonably comparable to those provided in urban areas… 47 U.S.C. §254(b). Section 706 of the Act instructs the Commission to "encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans…" 47 U.S.C. §706(a).

[13] *NPRM,* fn 7.

[14] NPRM, ¶ 37.

VoIP offerings that meet these four tests – they serve as substitutes for traditional telephony, they interconnect with the PSTN, they use the North American Numbering Plan, and they offer services through a provider's central servers – are "telecommunications services" as described by the 1996 Act.[15]

VoIP services that meet these criteria include commercial offerings offered by cable companies, AT&T, Vonage, 8x8, wireless carriers, and others. Many of these VoIP providers advertise themselves as functionally equivalent to traditional voice telephony. Vonage proclaims on its website: "Vonage works just like the telephone you have in your home today. You pick up the phone, dial the number, and it connects to whom you are calling."[16] According to the Minnesota Commission in discussing the Vonage VoIP service, "Although the phone is plugged into an MTA [Multimedia Terminal Adapter] router which, in turn, is plugged into the modem, the consumer is provided with service that is functionally the same as any other telephone service. Further, the Vonage service intersects with the public switched telephone network."[17]

Another VoIP carrier, 8 x 8, advertises its VoIP service on its website this way:

> Pick up the phone, hear dial tone and dial the telephone number of your choice. When you get an incoming call the phone rings the same as any phone. There are no extra numbers, no special routines to follow and no, you do not talk on your computer. We route calls over the Internet and then pass them off to the closest public telephone point to the number you are

[15] In a narrowly tailored ruling, the Commission concluded that Pulver's Free-World Dial-up (FWD) service is an unregulated information service subject to the Commission's jurisdiction. In order to use FWD, individuals must register and receive a Pulver-assigned five- or six-digit FWD number (not a North American numbering plan number) to make free VoIP or other types of peer-to-peer communication with other FWD members. FWD acts as a directory, informing its members when other members are online or "present" and available to receive a call. FWD does not assess a fee for its service; therefore it does not meet the Act's baseline definition of a "telecommunications" service as "the offering of telecommunications for a fee…" 47 U.S.C. § 153(46). *See In the Matter of Petition for Declaratory Ruling that pulver.com's Free World Dialup is Neither Telecommunications Nor a Telecommunications Service,* Memorandum Opinion and Order, WC Docket No. 03-45, Feb. 19, 2004 (rel), ¶ 1.

[16] "Vonage: The Broadband Phone Company – How It Works" at http://www.vonage.com/learn_howitworks.php (visited Oct. 26, 2003) ("Vonage web site").

[17] Minnesota Public Utilities Commission, Order Finding Jurisdiction and Requiring Compliance, In the Matter of the Complaint of the Minnesota Department of Commerce Against Vonage Holding Corp Regarding Lack of Authority to Operate in Minnesota ("Minnesota Vonage Order"), Docket No. P-6214/C-03-108, Sept. 11, 2003, 8.

> calling. To sum it up, you make and receive calls the same way you always have, but we connect your calls differently to save you money. Your experience is identical to what you are used to.[18]

These VoIP services clearly provide the functional equivalent of voice telecommunications. And as the Commission noted in the 1998 *Universal Service Report* to Congress, "the classification of a service under the 1996 Act depends on the functional nature of the end-user offering."[19]

VoIP carriers that substitute for traditional telephony, use the NANPA numbering plan, interconnect with the PSTN, and offer network services for a fee provide a "telecommunications service" as defined by the 1996 Act. The 1996 Act defines "telecommunications" as "the transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received."[20] There can be no question that VoIP is "telecommunications." It transmits a voice conversation without any change in the form or content from the sender to the receiver.

The Act goes on to define a "telecommunications services" as "the offering of telecommunications for a fee directly to the public or to such classes of users as to be effectively available directly to the public, regardless of the facilities used."[21] A "telecommunications service" therefore is "the offering of transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received, for a fee directly to the public, or to such classes of users as to

---

[18] "What is Packet8?" at http://www.packet8.net/about/index.asp (visited May 25, 2004).
[19] *In the Matter of Federal-State Joint Board on Universal Service*, Report to Congress ("*Universal Service Report*"), CC Docket No. 96-45, 13 FCC Rcd 11501, 1998, ¶ 86.
[20] 47 U.S.C. § 153(43).
[21] 47 U.S.C. § 153(46).

be effectively available directly to the public, regardless of the facilities used."[22] This is what VoIP providers do.

As the U.S. Department of Justice ("DOJ") and Federal Bureau of Investigation ("FBI") state in their Joint Comments in the *Vonage* proceeding,

> Vonage's VOIP service likewise meets all of the criteria of a telecommunications service: it contains an offering of a service that provides transmission, without any net change in form or content, to the public, for a fee. Indeed Vonage performs all the same "functions" as traditional circuit-mode telecommunications carriers, and directly competes with those carriers. Thus, if the Commission decides that VOIP is an information service, and if VOIP, as expected displaces traditional circuit-mode telecommunications, eventually Title II of the Communications Act will no longer apply to the most common form of telephony. In that event, the public will lose the benefit of a wide range of common carrier regulation, not just the public safety benefit of CALEA.[23]

Many commentators in the *Vonage* proceeding, including long-distance and local carriers, rural and non-rural local exchange carriers, public safety agencies, state Commissions, as well as the DOJ and FBI all conclude that the type of VoIP service provided by Vonage is a telecommunications service.[24]

The Commission in this instant proceeding should do likewise. VoIP carriers that provide a voice telephone service for a fee that substitutes for wireline telephony, use the NANPA numbering plan, interconnect with the PSTN, and provide a network service are

---

[22]

[23] Joint Comments of the United State Department of Justice and the Federal Bureau of Investigation, *In the Matter of Vonage Holdings Corporation Petition for Declaratory Ruling Concerning an Order of the Minnesota Public Utilities Commission ("Vonage Proceeding"),* WC Docket No. 03-211, Oct. 27, 2003, 13-14.

[24] Commenters in the *Vonage Proceeding* that supported the view that VoIP as provided by Vonage is a telecommunications service include CWA, the DOJ and FBI, Montana Telecommunication Association, Minnesota Department of Commerce, California PUC, National Association of State Utility Consumer Advocates, Washington Enhanced 911 Program, Rural Iowa Independent Telephone Association, Surewest Communications, Frontier and Citizens Telephone Companies, Organization for the Promotion and Advancement of Small Telecommunications Companies, Independent Telephone and Telecommunications Alliance, Minnesota Office of the Attorney General, Minnesota Statewide 911 Program, Minnesota PUC, Cinergy Communications Company, Sprint Corporation, ICORE Companies, Telecom Consulting Associates, Minnesota Independent Coalition, National Telecommunications Cooperative Association, Verizon, and Century Tel. *See* Joint Reply Comments of the U.S. Department of Justice and the Federal Bureau of Investigation, *Vonage Proceeding,* fn 27.

"telecommunications services."

B. VoIP Is Not An Information Service

The 1996 Act defines an 'information service" as "the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications, and includes electronic publishing, but does not include any use of any such capability for the management, control, or operation of a telecommunications system or the management of a telecommunications service."[25]

VoIP carriers that meet the four criteria that we have discussed sell voice telephone service. They do not provide the "capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications." Rather, VoIP carriers use data processing to "manage, control, or operate" the telecommunications system or telecommunications service.

The Commission has long distinguished between "basic" and "enhanced" services, dating back to the Commission's *Computer* inquiries in the mid-1970s and adopted in 1980. The Commission's purpose for making the distinction between basic and enhanced services was to "delineate those computer processing activities and resulting services which carriers may render as part of a common carrier communications service" and "to maintain the maximum separation policy [between communications and data processing services] and not extend the arm of regulation to data processing services."[26]

The Commission considered all voice services to be basic. The Commission originally proposed three categories of service – voice, basic non-voice and enhanced non-voice services.

[25] U.S.C. § 153(20).
[26] *Tentative Decision and Further Notice of Inquiry and Rulemaking*, 72 F.C.C.2d, 385 ¶60 (1979) ("*CI II Tentative*

The Commission stated that its goal was "the establishment of a regulatory structure under which carriers can provide 'enhanced non-voice' services free from regulatory constraints as to the communications or data processing nature of the service."[27] In its final decision, the Commission reduced the categories to two, but was clear that "basic" included voice and basic non-voice services. "Enhanced" included unregulated non-voice services.[28]

The Commission has consistently ruled that protocol conversion in connection with the provision of a telecommunications service does not transform that service into an enhanced service. In its *Protocols Order,* the Commission concluded that "protocol processing involved in the initiation, routing and termination of calls (or sub elements of calls, e.g. packets) is inherent in switched transmission and is not within the definition of enhanced service."[29] Similarly, "functions necessary to route a message through the network are basic, not enhanced."[30]

The Commission in the *Non-Accounting Safeguards Order* described three categories of protocol processing that it treats as basic services: 1) those involving communications between an end-user and the network itself (e.g. for initiation, routing, and termination of calls); 2) those in connection with the introduction of a new basic network technology (which requires protocol conversion to maintain compatibility with existing CPE); and 3) those involving internetworking (conversions taking place solely within the carrier's network to facilitate provision of a basic

---

Decision").
[27] *CI II Tentative Decision* ¶ 24.
[28] The Commission explained that confusion "should be alleviated by our use of more descriptive 'basic' and 'enhanced' terminology in differentiating services falling within the former 'voice,' 'basic non-voice,' and 'enhanced non-voice' categories. *CI II* ¶91.
[29] *Communications Protocols under Section 64.702 of the Commission's Rules and Regulations,* 95 F.C.C.2d 584, ¶28 (1983) ("*Protocols Order"*). *See Amendment to Sections 64.702 of the Commission's Rules and Regulations (Third Computer Inquiry),* 2 F.C.C. rcd 3072, ¶64 (1987) ("*CI III"*).
[30] *Protocols Order* ¶14, quoting *CI II* ¶90.

network service that result in no net conversion to the end-user.)[31]

In the *Non-Accounting Safeguards Order,* the Commission concluded that these three categories of protocol conversion result in "no net" protocol processing and thus are exempt from classification as an information service. "These categories of 'no net' protocol conversion services constitute telecommunications services, rather than information services, under the 1996 Act."[32]

This is precisely what is involved in VoIP services. In the case of a VoIP subscriber who calls a non-VoIP subscriber, the analog voice call is converted to IP protocol by the customer's specialized router, travels over the Internet to a gateway where it is converted to the PSTN's digital TDM protocol, then travels on the PSTN to the other non-VoIP subscriber where it is converted back to an analog voice call. The call begins as an analog voice call and ends as an analog voice call. What enters the network on one end emerges at the other end in the same form. There is no "net protocol conversion." Protocol conversion serves either to make the new network technology (IP) compatible with the customer's CPE and/or to facilitate the interconnection of networks using different protocols, in this case the Internet's IP and the PSTN's TDM digital protocol. We are in the transition period between circuit-switched and IP packet-switched networks. This is precisely the situation the Commission anticipated when it concluded in the *Non-Accounting Safeguards Order* that protocol conversion to make new network technology (IP networks) compatible with the PSTN results in no "net conversion" and is therefore not an information service.

In sum, VoIP services provided to the public for a fee that are the functional equivalent of

[31] *Non-Accounting Safeguards Order,* 11 FCC rcd at 21958, ¶ 106.
[32] *Id.*

voice telephony, use the North American Numbering Plan, intersect with the public switched network, and provide network services are telecommunications services, as defined by the 1996 Telecommunications Act, subject to common carrier regulation under Title II of the Act.

III. REGULATION OF VoIP SERVICES AS A TELECOMMUNICATIONS SERVICE PROMOTES THE PUBLIC INTEREST

Classification of VoIP as a telecommunications service not only complies with the legal mandates of the 1996 Act, it also serves the public interest. It assures that all voice providers, regardless of the technology, are subject to equivalent regulation, thereby foreclosing opportunities for regulatory arbitrage in the marketplace. It ensures that consumers will continue to benefit from the public interest obligations that the 1996 Act and Commission rules impose on telecommunications carriers. Finally, it promotes an open network architecture that has been the foundation for the vibrant growth of the PSTN and the Internet.

A. The Commission Should Forbear from Imposing Rate Regulation on VoIP Carriers At This Time

Classification of VoIP as a telecommunications service does not require the Commission to subject VoIP service providers to all of the traditional economic regulations set forth in Title II of the Communications Act. As the Commission correctly notes, many of the Title II regulations were written to apply to monopoly providers using bottleneck facilities with significant market power to control rates, terms, and conditions of service.[33] Today's telecommunications market is characterized by vibrant competition across technology platforms. The growth of VoIP will accelerate the rate of competition. As an emerging technology and market, no VoIP carrier

[33] *NPRM,* ¶74.

possesses market power to control rates, terms, or conditions of service. Therefore, while classifying VoIP as a telecommunications service, the Commission should exercise its forbearance authority to carve VoIP services out from any rate regulation at this time.

B. Title II Obligations of Interconnection and Non-Discrimination Promote Competition and Growth of Internet Networks and Services

Telecommunications carriers subject to Title II common carrier regulation must meet certain public interest obligations to ensure an open, non-discriminatory network architecture. First, common carriers must provide communications upon reasonable request at rates that are just and reasonable to requesting carriers and end-users. Second, common carriers cannot unjustly or unreasonably discriminate in "charges, practices, classifications, regulations, facilities, or services" against similarly situated third-party customers. Third, common carriers must allow interconnection directly or indirectly with the facilities and equipment of other such providers.[34] Under the *Computer Inquiry* decisions, facilities-based common carriers are required to provide the basic transmission services underlying their enhanced services on a nondiscriminatory basis.[35]

These requirements for an open network architecture, interconnection, and non-discrimination in provision have contributed to the vibrant growth of the PSTN an the Internet. These rules have allowed competing facilities-based carriers, including those using packet-switched IP, to interconnect with the PSTN to reach customers. Perhaps more important, these rules compel facilities-based carriers to provide content providers such as Internet Service Providers (ISPs) and other enhanced service providers (ESPs) access to their networks at non-discriminatory rates to provide consumers with a broad range of new services, content, and

[34] 47 U.S.C. §§ 201, 202, 251(a)(1).

choice. Consumer choice and access to a wide array of diverse content adds value to the network, driving further growth and innovation.

As networks transition from the PSTN to the Internet, providers of IP-enabled network services must continue to be subject to Title II interconnection and nondiscrimination obligations.

C. VoIP Providers Must Be Subject to Traditional Telephone Regulation Regarding Universal Service, Intercarrier Compensation, Public Safety, Access for People with Disabilities, and Consumer Protections

The Telecommunications Act and Commission rules impose various important social obligations and public safety requirements on providers of telecommunications. These obligations include, but are not limited to, contribution to universal service mechanisms, payment of access charges (for interstate service), compliance with standards promulgated pursuant to section 255 for persons with disabilities, obligations to provide and to make contributions to the telecommunications relay service (TRS) for the hearing disabled, CALEA public safety assistance requirements, customer proprietary network information (CPNI) and privacy rules, section 214 authorization requirements, truth in billing requirements, Section 258 protections against slamming, and payment of certain fees, reporting, and filing requirements.[36]

Regardless of the regulatory classification of VoIP services, the Commission must ensure that *all* providers of voice telephony services are required to meet the social obligations imposed on telecommunications carriers. Failure to do so would undermine important goals that Congress mandated in the Telecommunications Act of 1996 and the Commission has incorporated in its rules, including universal service support, access for people with disabilities, and public safety

[35] *Computer II Final Order,* 17 FCC 2d, ¶ 83.

requirements. Moreover, failure to impose equivalent regulatory obligations on all providers of voice telephony would cause distortion in the marketplace. In the *Universal Service Report,* the Commission acknowledged that exempting VoIP carriers from requirements imposed on other wireline voice telephony providers would open up arbitrage opportunities and undermine universal service support mechanisms. In its discussion of universal service obligations of VoIP phone-to-phone carriers, the Commission wrote:

> We are mindful that, in order to promote equity and efficiency, we should avoid creating regulatory distinctions based purely on technology. Congress did not limit 'telecommunications' to circuit-switched wireline transmission, but instead defined that term on the basis of the essential functionality provided to users.
>
> …If such [phone-to-phone IP telephony service] providers are exempt from universal service contribution requirements, users and carriers will have an incentive to modify networks to shift traffic to Internet protocol and thereby avoid paying into the universal service fund, or in the near term, the universal service contributions embedded in interstate access charges. If that occurs, it could increase the burden on the more limited set of companies still required to contribute. Such a scenario, if allowed to manifest itself, could well undermine universal service. [37]

Further, the Commission recognized that "carriers with universal service contribution obligations should not be at a competitive disadvantage in relation to providers on the basis that they do not have such obligations." This approach, the Commission noted, is consistent with its principle of competitive neutrality articulated in its *Universal Service Order.*[38]

i. Universal Service

All VoIP and IP-enabled service providers must be subject to Section 254 requirements and Commission rules for universal service support. Otherwise, as more and more traffic migrates to

---

[36] *NPRM,* ¶¶ 50 – 67, 71-72. *See* also *Universal Service Report*, ¶ 91 and n. 189.
[37] Universal Service Order, 98.
[38] *Id.,* ¶ 133. See also Universal Service Order, 12 FCC Rcd at 8801, ¶ 47.

IP networks, the universal service system of support will not be sustainable. Those that receive support from the fund, including carriers in high-cost rural areas, low-income consumers, and schools, libraries, and rural health care centers, will all see universal service subsidies dry up and prices will rise.

Moreover, as the lines between IP-enabled voice and data services blur, it will become increasingly difficult to differentiate voice from data services for assessment of universal service contribution. The Commission should therefore exercise its permissive authority to require all IP-enabled service providers, including both facilities-based and non-facilities-based IP-enabled service providers, to contribute to universal service support.

As more and more consumers transition to VoIP services, the Commission will need to revisit its list of services eligible for universal service support. VoIP requires a broadband connection. Consumers who do not have access to affordable, quality broadband services cannot subscribe to VoIP services. They will not have access to the many consumer benefits of IP-enabled services, nor will they have the opportunity to subscribe to VoIP, a service that many analysts predict will be able to offer lower prices for voice service due to its lower network cost structure. Therefore, it is time to re-examine the list of supported services in order to advance universal access to advanced services and networks.

ii. Access Charges

All carriers that interconnect with the public switched network should be subject to intercarrier compensation. In the *NPRM,* the Commission states

> As a policy matter, we believe that any service provider that sends traffic to the PSTN should be subject to similar compensation obligations, irrespective of whether the traffic originates on the PSTN, on an IP network, or on a cable network. We maintain that the cost of the

PSTN should be borne equitably among those that use it in similar ways."[39]

CWA concurs.

In the *AT&T Access Charge Order,* the Commission concluded that long-distance carriers that transport long-distance calls over an Internet backbone remain subject to intercarrier compensation for originating and terminating traffic on the PSTN. The Commission emphasized that while it is mindful of Congress' directive to foster the dynamic Internet market, the Commission was also "mindful of the equally compelling statutory obligation to preserve and advance universal service, a policy goal that remains intertwined with the interstate and intrastate access charge regime."[40] The Commission noted further that regulatory arbitrage was not in the public interest. "We see no benefit in promoting one party's use of a specific technology to engage in arbitrage at the cost of what other parties are entitled to under the statute and our rules…"[41]

The Commission should require all VoIP and other IP-enabled service providers to pay access charges when they originate or terminate traffic on the PSTN.

iii. Public Safety

The DOJ and FBI have urged the Commission to regulate VoIP carriers as telecommunications carriers in order to protect public safety. In the Vonage proceeding, the DOJ and FBI state that failure to regulate VoIP as a telecommunications service would

> undercut CALEA's [Communications Assistance for Law Enforcement Act] very purpose, and jeopardize the ability of federal, state and local governments to protect public safety and national security against domestic and foreign threats…there will be a serious risk that certain call content and call identifying information would evade lawful electronic

[39] *NPRM,* ¶¶ 32 and 61.
[40] *In the Matter of Petition for Declaratory Ruling that AT&T's Phone-to-Phone IP Telephony Services are Exempt from Access Charges,* Order, WC Docket No. 02-361 ("*AT&T Access Charge Order"),* April 21, 2004 (rel), ¶14.
[41] *Id.,* ¶ 17.

surveillance, because it would preclude CALEA-complaint surveillance of telephone calls merely because the call transmission happened to employ an alternate protocol, such as Internet Protocol.[42]

The Commission must ensure that all VoIP carriers provide 911 and E911 service.

Consumers have the expectation that voice carriers provide 911 and E911 services. A young child, an elderly person, a person with disabilities, or any individual under stress during a time of emergency is not likely to know or remember that the fine print of the service agreement on the web site of their voice on the Internet telephone provider states that E911 service is inferior, may not be available if they have failed to register their physical location with the carrier, if they have moved, or if they have hooked their VoIP router up to a different phone. Moreover, 911 service will not function in the event of a power outage.[43]

---

[42] DOJ/FBI Comments, *Vonage Proceeding*, iv.

[43] VoIP carrier 8x8 Service Agreement states: "End user acknowledges that 8x8's equipment and services do not support 911 emergency dialing or other emergency functions. End user agrees to notify any user of the services, who may place calls using end user's services, of the 911 limitation. 8x8 advises end user to maintain an alternative means of accessing traditional 911 services." 8x8 website, http://www.packet8.net/about/service_terms.asp (downloaded May 25, 2004).

The Vonage Terms of Service states "911-type dialing is NOT automatic…There is a greater possibility of network congestion and/or reduced speed [you] will be routed to the general telephone number for the local emergency service provider and will not be routed to the 911 dispatcher(s) who are specifically designated to receive incoming 911 calls at such local provider's facilities when such calls are routed using traditional 911 dialing…There may be a great possibility that the general telephone number for the local emergency service provider will produce a busy signal of will take longer to answer. PSAP and emergency personnel may or may not be able to identify your phone number in order to call you back if the call is unable to be completed is dropped or disconnected or it you are unable to speak…At this time in the technical development of Vonage 911 Dialing, it is not possible to transmit identification of the address that you have listed to the Public Safety Answering Point and local emergency personnel." Vonage Terms of Service, http://www.vonage.com.

The AT&T Service Agreement states "You can reach emergency assistance by dialing 911 on your AT&T CallVantage℠ Services phone; however, there are important differences between AT&T CallVantage℠ Service 911 Emergency Dialing and traditional 911 service from a standard phone. It is your responsibility to familiarize yourself with them. In order for 911 Emergency Dialing to work properly, the Service Address we have on file for you MUST correspond to the physical location of your AT&T CallVantage℠ Service phone… If you relocate your AT&T CallVantage℠ Service phone on a temporary basis, such as taking your Telephone Adapter (TA) with you when you go to a vacation home, you MUST use a DIFFERENT telephone to dial 911 from your new location. If you dial 911 from your AT&T CallVantage℠ Service phone and you are not at your physical Service Address location, we will not be able to route your call to the appropriate emergency operator. If you permanently or long term relocate your AT&T CallVantage℠ Service phone, for example when you move homes, you MUST provide

Numerous state and federal public safety officials intervened in the *Vonage* proceeding to point out the dangers to public safety from a failure by VoIP carriers to provide E911 service. As the New York State Commission noted in its recent *Vonage* Order

> The (NY) Commission has a responsibility to ensure that the public has ubiquitous access to effective and efficient 911/E911 emergency calling capabilities that meet the needs of emergency response organizations. The events of September 11, 2001 and the widespread blackout of August 2003 emphatically attest to the state's vital interest in maintaining reliable telecommunications networks.[44]

In the *E911 Scope Order,* the Commission identified four criteria relevant to determining whether carriers should, in the public interest, be subject to 911/E911 regulation. First, the entity offers real-time, two-way voice service, interconnected with the PSTN; second, customers using the service have a reasonable expectation of access to 911 and E911; third, the service competes with traditional wireless or wireline local exchange service; and fourth, it is technically and operationally feasible for the service to device to support E911.[45] VoIP clearly meets the first three criteria, and there appear to be technical methods to satisfy the fourth method. According to Sprint, "advanced technologies (such as assisted GPS service) that are helping to make wireless E911 capability a reality" could be used by VoIP carriers.[46] The Commission notes in the *NPRM* that "some vendors of VoIP equipment claim to have resolved the technical problems associated with transmitting location and call-back to the appropriate PSAP through software

---

AT&T with your new physical Service Address location. Just as your regular cordless phone will not work today without power, your Telephone Adapter (TA) does not operate without power. As a result, you will be unable to make 911 Emergency Dialing calls from your AT&T CallVantage[SM] Service phone during an electrical power outage…Similarly, you will not be able to make 911 Emergency Dialing calls from your AT&T CallVantage[SM] Service phone if your broadband service provider has a service outage or if any other service disruptions keep you from being able to make an outbound call.

[44] *NY Vonage Order*, Case 03-C-1285, 14-15.
[45] *NPRM,* ¶ 55.
[46] Sprint Comments, *Vonage Proceeding,* Oct. 27, 2003, 14.

upgrades."[47] Further, the *Hatfield Report*, which the Commission commissioned in 2002 to examine technical issues related to E911 services, examined IP technology as a potential solution so such issues.[48]

The Commission cannot be assured that this important public safety obligation will be met on a voluntary basis. The Voice on the Net coalition, for example, lauds a voluntary E911 agreement that simply commits to provide 911 access within a "reasonable three to six months" and to inform customers that the service is not available prior to that time.[49] As we have seen with wireless E911, absent regulatory requirement, the Commission has no guarantees that VoIP providers will invest in technical solutions to provide E911 service.

Finally, the Commission must also address a critical public safety issue related to VoIP service that has received too little attention. VoIP carriers that do not purchase transport services from incumbent telephone companies do not have back-up power in the network. In contrast, incumbent telephone companies supply back-up power in the network so that consumers with wireline phones that plug in to a jack in the wall can use their phones even during an electrical power failure. However, VoIP subscribers who purchase service from cable companies or edge carriers will lose service at the time of a power failure. This issue must be addressed in this rulemaking.

iv. Access for People with Disabilities

As a telecommunications service, VoIP service providers are subject to Section 255 and Section 251(a)(2) requirements for disability accessibility and to provide Telecommunications

[47] *NPRM,* ¶ 54.
[48] *Id.*
[49] VON Coalition and NENA, *Public Safety and Internet Leaders Connect on 911,* Press Release (Dec. 9, 2003), citation in *NPRM,* fn 168.

Relay Service (TRS) so that persons with disabilities will have equal access to the network. They are also subject to contribution to the Interstate TRS Fund.

Should the Commission determine (erroneously in our view) that VoIP is an information service, the Commission should use its ancillary authority under Title I to require VoIP providers and providers of other IP-enabled services to provide access to people with disabilities, under the same conditions as the Commission has set for Section 255.

v. Consumer Protections

The 1966 Act and Commission rules impose important consumer protections on telecommunications carriers that must apply to all VoIP services providers. These include:

- Section 222 restrictions on carriers use and disclosure of customer proprietary network information (CPNI). This provides essential consumer privacy protection that is equally important for customers of VoIP services.
- Section 214 requirements for authorization to construct, acquire, operate, or engage in transmission of communication, or to discontinue, reduce, or impair service. Section 214 provides the Commission the authority to regulate mergers and acquisitions, as well as to ensure that telecommunications carriers meet operational, financial, and technical standards. In light of recent financial scandals that rocked the telecommunications industry, this is especially important. Further, Section 214 provides the Commission with the authority to ensure that consumers are not left without service should a carrier encounter financial difficulty or choose to discontinue service. One need only recall public concern when WorldCom declared bankruptcy or @home broadband service abruptly cut off service to understand the importance of these protections.

- Section 258 prohibitions of slamming by requiring telecommunications carriers to authorize and verify carrier changes.
- Section 201 and Section 258 "Truth in Billing" rules to improve customer's understanding of their bills.
- Service quality reporting requirements to ensure that VoIP carriers provide high quality service to consumers.

In sum, the Commission must establish a regulatory framework to ensure that important public interest obligations that have characterized traditional telephone networks continue as we transition to IP networks and services. These include support for universal service, disability access, public safety, and consumer protections. As a telecommunications service, VoIP providers would be subject to these same obligations as other telecommunications carriers. This would eliminate arbitrage opportunities and ensure competitive neutrality as the industry develops. However, should the Commission conclude (erroneously, in our view) that VoIP and other IP-enabled services are not telecommunications services, the Commission must establish a regulatory framework to ensure that these important public safety and social obligations are met in an IP communications environment.

IV. STATE COMMISSION JURISDICTION OVER INTRASTATE VOICE COMMUNCIATIONS DOES NOT EVAPORATE WITH VoIP VOICE SERVICE

Section 152(b) of the Communications Act of 1934 (as amended) expressly grants state jurisdiction over intrastate communications.[50] The Commission has explicitly stated that federal preemption of state regulation should be narrowly tailored to specific state actions that are likely

[50] 47 U.S.C. § 151(b). "…nothing in this Act shall be construed to apply or to give the Commission jurisdiction with

to interfere with federal policies.[51] State jurisdiction over the intrastate portion of VoIP service does not interfere with federal policy to foster innovation and growth of the Internet. The Minnesota Commission imposed minimal requirements on Vonage: certification, submission of a "comparable" 911 plan, and remittance of 911 fees. Similarly, the New York Commission determined that Vonage "should be subject to, at most, the same limited regulatory regime which is applied to comparable competitive carriers in New York." The New York Commission determined therefore that "Vonage will not be subject to economic or rate regulation, but, pursuant to Public Service Law, Vonage must obtain Commission authorization to provide telephone service and file a schedule of its rates."[52] The New York Commission has given Vonage 45 days to respond to its Order, to file any waiver requests and to work with the Commission "to develop alternative means, where appropriate, of achieving necessary public safety and consumer protections."[53] The New York Commission notes that this will "allow development of a sufficient factual basis for us to ensure that our core public policy goals are met without unnecessarily interfering with the development of new services and technology developments."[54]

There is nothing in the regulatory requirements imposed by either New York or Minnesota

---

respect to (1) charges, classifications, practices, services, facilities, or regulations for or in connection with intrastate communication service by wire or radio of any carrier…."

[51] "Preemption of state regulation in this area should be as narrow as possible to accommodate differing state views while preserving federal goals." In the Matter of Computer III Remand Proceedings: Bell Operating Company Safeguards and Tier 1 Local Exchange Company Safeguards ("Computer III Remand"), 6 FCC RCD 7571 (1991) ¶ 121. See also *California v. FCC*, 905 F2d at 1243 ("California I"). "FCC bears the burden of justifying its entire preemption order by demonstrating that the order is narrowly tailored to preempt *only* such state regulations as would negate valid FCC regulatory goals."

[52] NY Public Service Commission, "PSC: Vonage is a Telephone Corporation as Defined by NYS Law – Commission Seeks to Maximize Benefits of new Technology, Protect Core Public Interests", Press Release, May 19, 2004.

[53] *Id. 17*

[54] *Id.*

that would thwart growth of this innovative service, in particular, nor of the Internet, in general.

Moreover, there are sound public policy reasons to ensure that states have regulatory authority in partnership with the FCC to ensure that VoIP service within the state jurisdiction serves the public interest and protects public safety. States require providers of voice telephony to demonstrate "technical, managerial, and financial resources" in order to obtain certification to operate in the state. They must also demonstrate that their provision of telephone service is "consistent with fair and reasonable competition, universal service, the provision of affordable telephone service at a quality consistent with commission rules."[55] States often impose other requirements on telephone companies, including privacy protections, advance notice of termination of service, and other consumer protections.[56] States regulate 911/E911 service to protect public safety. States regulate intrastate access charges, and many states operate their own universal service systems. California, for examples, estimates a loss of 1 billion dollars to its state universal service fund by 2008 if VoIP carriers are excluded from contribution.[57]

To be sure, VoIP raises complicated jurisdictional issues as to how to separate VoIP calls into intrastate and interstate portions. This is also true of wireless telephony, and increasingly of wireline telephony over circuit-switched networks. However, the "any distance" nature of the Internet does not require preemption of state regulation. In fact, preemption would leave a serious vacuum that would leave many consumers without many basic protections. Therefore, the Commission should not preempt state regulation of VoIP service.

V. CONCLUSION

VoIP offers exciting new possibilities for the way we communicate and use our

[55] Minnesota Statutes § 237.16 sub. 1(b). *See* Minnesota DOC Complaint ¶ 36.
[56] Vonage policies fail to meet these requirements of Minnesota statute. Minnesota DOC Complaint, ¶ 34.

communications networks to improve the social, economic, and political infrastructure in our country. In order to realize these new communications vistas, we must ensure that all Americans have affordable access to quality high-speed Internet networks. This in turn requires a regulatory framework for VoIP and other IP-enabled services to ensure that the public safety and consumer protections and universal service obligations that have made our PSTN the envy of the rest of the world carry over to the IP environment.

VoIP is the functional equivalent of a traditional voice telephone service and should be subject to many of the same obligations. However, because VoIP is a nascent service in a competitive market, there is no need for price regulation of VoIP service at this time. Finally, states must continue to have jurisdiction in partnership with the FCC to regulate VoIP in the public interest.

Respectfully Submitted,

_____

George Kohl
Assistant to President, Director of Research
Communications Workers of America

Dated: May 28, 2004

[57] Feed Fujii, "California Senate Holds Hearing on Voice-Over-Internet Protocol," *The Record,* Feb. 2, 2004.